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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,232	12/20/2001	Yukihisa Takeuchi	782 208	9132

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EXAMINER

A, MINH D

ART UNIT PAPER NUMBER

2821

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,232

Applicant(s)

TAKEUCHI ET AL.

Examiner

Minh D A

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-35 is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-12 are rejected under 35 U.S.C. 102(b) as being unpatentable by Shinjo et al (US 6,420,825).

Regarding claims 1 and 4, Shinjo discloses the display having an electron emitting device comprising:

an electric field applying portion composed of a dielectric;

a first electrode (2) formed on one surface of this electric field applying portion; and a second electrode (3) formed on the one surface of the electric field applying portion, and forming a slit in cooperation with the first electrode (2). See figure 9A and 9B, col.22, lines 13 to col.23, lines 1-38.

Regarding claims 2 and 5, Shinjo discloses the carbon coating is applied to the first electrode (2), the second electrode (2) and the slit. See col.23, lines 15-38.

Regarding claims 3,6 and 7, Shinjo discloses the third electrode (25) arranged at a certain space to the first (2) and second electrodes (3), wherein space between the first and second electrodes and the third electrode (25) is vacuum. See figure 11D.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Shinjo et al (US 6,420,825).

Regarding claims 8-13, Shinjo discloses invention except for resistor or capacitor or fourth electrode. It would have been an obvious matter of design choice to have the resistor or capacitor or fourth electrode, since applicant has not disclosed that the resistor or capacitor or fourth electrode solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the resistor or capacitor or fourth electrode.

Regarding claims 14-16, Shinjo discloses the claimed invention except for the dielectric constant not less than 1000 or the slit has the width not more than 500pm at least one of said first electrode and said second electrode has an angular part with an acute angle. It would have been an obvious matter of design choice to have the dielectric constant not less than 1000 or the slit has the width not more than 500pm, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ_237 (CCPA 1995).

Regarding claim 17, Shinjo discloses the claimed invention except for the first and second electrodes, each have carbon nanotube. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first and second electrodes, each have carbon nanotube, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Allowable Subject Matter

5. Claims 18-35 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art does not teach that, the field emission display comprising: a plurality of electron-emitting elements arranged in two dimensions; and a plurality of phosphors each being arranged with a certain space to each of these electron-emitting elements, each of said electron-emitting elements having: an electric field applying portion made of a dielectric; a first electrode formed on one surface of this electric field applying portion; and a second electrode formed on said one surface of the electric field applying portion, and forming a slit in cooperation with said first electrode in independent claims 18.

The prior art does not teach that, the field mission display comprising: a plurality of electron-emitting elements arranged in two dimensions; and a plurality of phosphors each being arranged with a certain space to each of these electron-emitting elements, each of said electron-emitting elements having: an electric field applying portion composed of at least one of a piezoelectric material, an electrostrictive material

Art Unit: 2821

and an anti ferroelectric material; a first electrode formed on one surface of this electric field applying portion; and a second electrode formed on said one surface of the electric field applying portion, and forming a slit in cooperation with said first electrode.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chung et al. (US 6,426,590); Karpov et al. (US 5,818,166) are cited to show the field emission device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (703) 605-4247. The examiner can normally be reached on M-F (7:30 –4:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (703) 308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.

Application/Control Number: 10/027,232
Art Unit: 2821

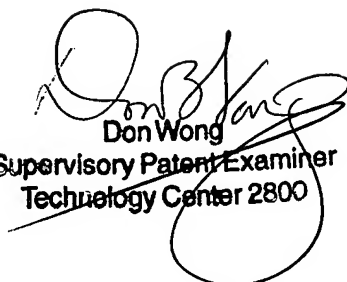
Page 6

Examiner

Minh A

Art unit 2821

06/16/03


Don Wong
Supervisory Patent Examiner
Technology Center 2800